Asthma Medication Use and Treatment Guidelines

Varied use of asthma medications

A variety of medications are used to reduce and control asthma symptoms. For people with persistent asthma symptoms, two classes of medications are required for proper treatment: rescue and controller medications. The Expert Panel Review (EPR-3) Guidelines[1] recommend that a long-term controller medication such as an inhaled corticosteroid (ICS) be taken daily to achieve and maintain control of persistent asthma. The EPR-3 also recommends that Short-Acting Beta$_2$-Agonists (SABA) be used in response to symptoms. However, the use of a SABA (rescue inhaler) more than 2 days per week (excluding for prevention of exercise induced asthma) indicates inadequate control of asthma. The EPR-3 also recommends the use of oral systemic corticosteroids (OCS) for moderate to severe exacerbations. However, if an individual requires more than one course of OCS in a year, it indicates that the person's asthma is not in control. The following report describes medication use among Montanans with current asthma based on self-reported data from the Asthma Call-Back Survey.

One-third of adults and children with current asthma reported not having any asthma medications.

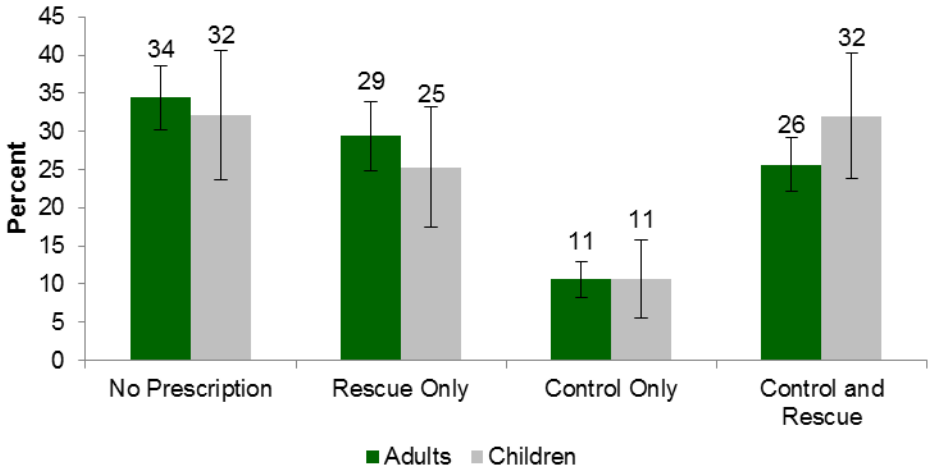
Of those with medications, 40% do not use the medication properly.

Reported Use of Asthma Medications

All people with asthma should have a rescue medication. Those with persistent asthma symptoms should have both rescue and controller medications. Among adults and children in Montana with current asthma, only 55% and 57%, respectively, reported having a rescue medication (Figure 1). Thirty-seven percent of adults and 43% of children with current asthma reported using a controller medication (Figure 1). Of adults and children on a controller medication, the majority (77%) reported using an ICS. Other common controller medications were inhaled long-acting beta agonists (LABA) (60%), and leukotriene modifiers (39%). Of people reporting use of a rescue asthma medication the most common medication was an inhaled SABA (94%). Finally, very few adults and children reported having used an OCS in the last 3 months (data not shown).

Approximately one-third of adults and children with current asthma reported not having any prescription medication to treat their asthma (Figure 1). Without the ability to self-manage asthma symptoms, an exacerbation may lead to an unnecessary emergency department visit or hospital admission.

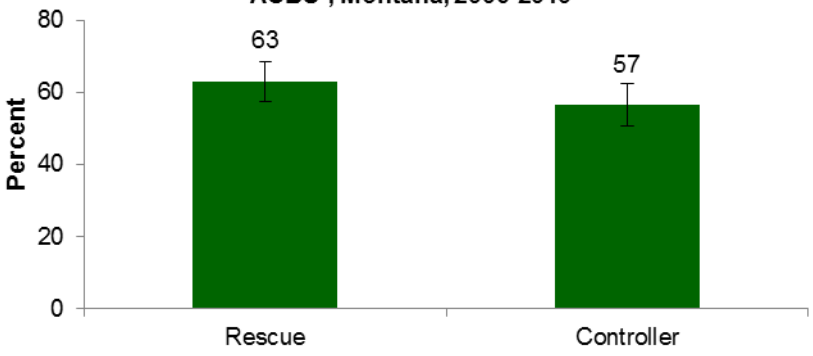
Figure 1. Percent of adults and children with current asthma by type of asthma medication used, ACBS[2], Montana, 2006-2010



Proper Use

Proper use of medication is important for establishing and maintaining asthma control. For control medication, proper use means taking it on a daily basis, but not taking it during an attack or before exercising. For rescue medication, proper use means taking it during an attack and not taking it on a daily schedule. Approximately 60% of adults and children reported proper use of their inhaled control and rescue medications (Figure 2).

Figure 2. Percent of adults and children with current asthma who used their asthma medications properly, ACBS[2], Montana, 2006-2010

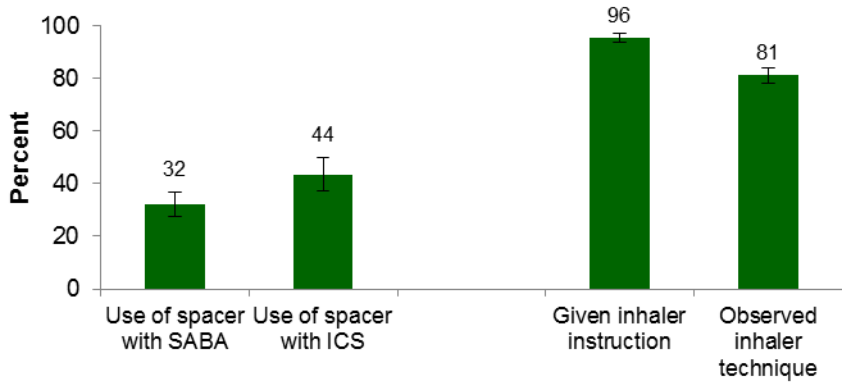


LABAs should only be used in conjunction with an ICS. Nearly all adults (94%) and all children (100%) with current asthma who took a LABA in the last 3 months also reported taking an ICS (data not shown).

Spacers are aerosol-holding chambers that can help deliver asthma medication to the lungs more efficiently. This can lead to improved response and reduced cost due to wasted medication. Adults and children reported using a spacer with an inhaled SABA or an ICS 32%

and 44% of the time, respectively (Figure 3). Proper inhaler technique can help better deliver asthma medication as well. One in five adults and children with asthma reported they had never had a health professional watch them use their inhaler (Figure 3).

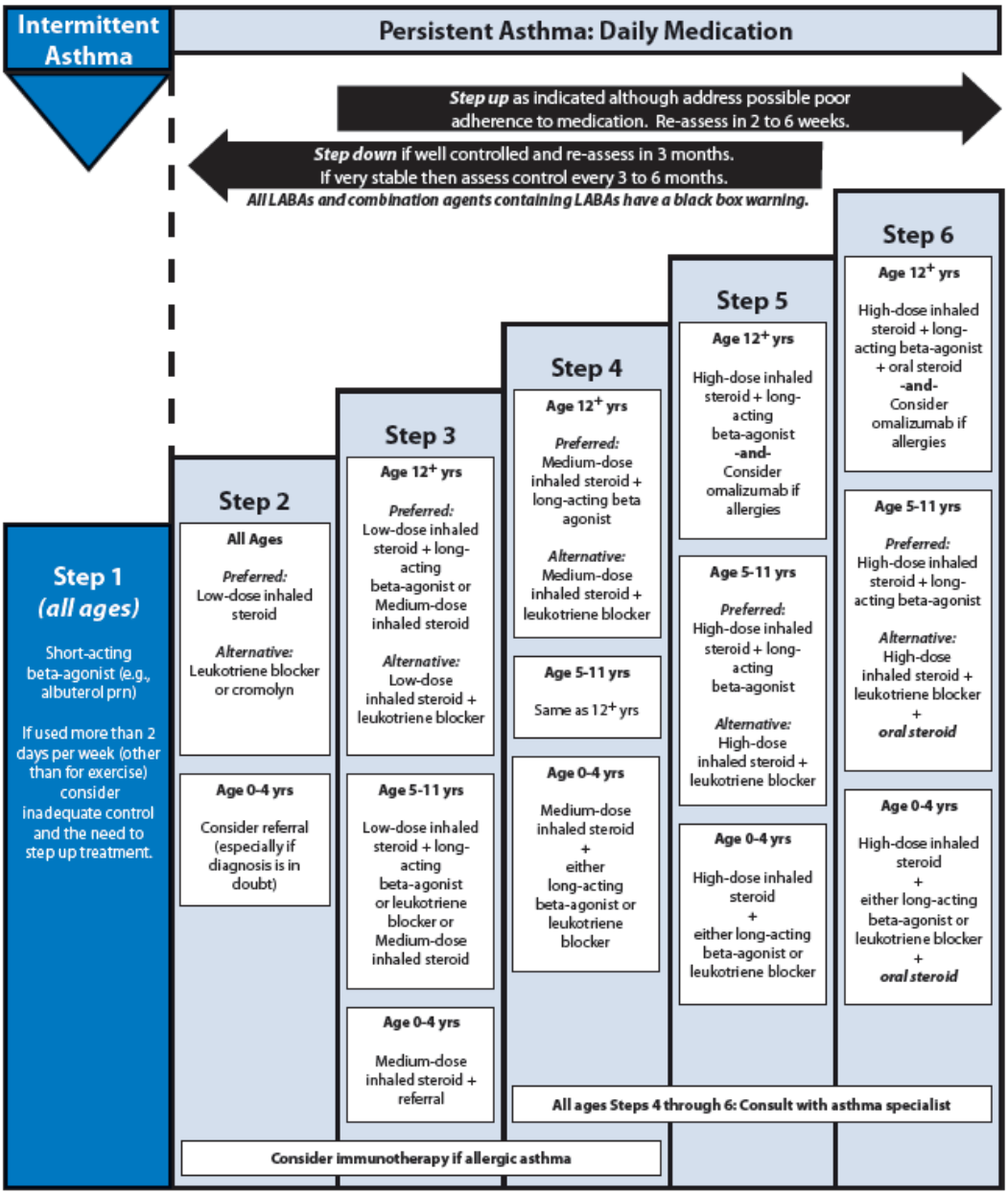
Figure 3. Spacer use and inhaler instruction for inhaled asthma medications among adults and children with current asthma, ACBS[2], Montana, 2006-2010



Treatment Guidelines

The EPR-3 Guidelines recommend a stepwise approach to prescribing and using asthma medications. Regular assessment of symptoms and lung function help determine whether a step-up or a step-down in treatment is indicated. Figure 4 summarizes the stepwise approach to daily asthma medications.[3]

Figure 4. Summary of stepwise approach to asthma medications



How to determine medication use

The Montana Asthma Call-back Survey (ACBS) is a telephone survey of non-institutionalized adults aged 18 and over. Participants are recruited from the Behavioral Risk Factor Surveillance System (BRFSS) survey if they indicate that they either had or currently have asthma. During the BRFSS, a child is also randomly selected from the household and the parent or guardian responds to a selection of questions on their behalf. Individuals who self-report that they have asthma (or their parent or guardian) are then called again and asked more in-depth questions about their experience with asthma and their use of specific asthma medications. Montana has participated in the ACBS, funded by the Centers for Disease Control and Prevention, annually since 2006.

Clinical Recommendations

- Ensure each asthma patient has at minimum a rescue inhaler
- Recall asthma patients for semi-annual visits to discuss asthma symptoms, medication adherence, and control
- Use the stepwise approach when prescribing asthma medications
- Teach patients when and how to use asthma medications and observe patients' inhaler technique regularly
- Recommend using a spacer to patients with inhaled medications

Resources

1. National Heart Lung and Blood Institute (US). Expert Panel Review-3 Guidelines to Asthma Management. National Institutes of Health (US); 2007 Aug. NIH Pub. Available at: http://www.nhlbi.nih.gov/guidelines/asthma/asthgdln.pdf
2. Asthma Call-back Survey (ACBS), conducted by the Montana Behavioral Risk Factor Surveillance Program
3. Colorado Clinical Guidelines Collaborative, www.coloradoguidelines.org